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State of Utah
DEPARTMENT OF NATURAL RESOURCES
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September 11, 2001

TO: Internal File

THRU: Pamela Grubaugh-Littig, Permit Supervisor *pgl*

FROM: Wayne H. Western, Senior Reclamation Specialist *W.H.W.*

RE: Revised Calculation for Reclamation Bond at the Horizon Mine C/007/020-AM01B

SUMMARY:

On September 10, 2000, the Division received revised reclamation costs estimates for the Horizon Mine. The Division used the information in the reclamation cost estimate along with the revised reclamation plan to determine the bond amount, which is \$342,000. The current bond is for \$711,000. The reason for the bond reduction involves revised earthwork costs, which include a 50% reduction in the volume of material to be used and equipment that is more productive.

TECHNICAL ANALYSIS:

RECLAMATION PLAN

BONDING AND INSURANCE REQUIREMENTS

Regulatory Reference: 30 CFR Sec. 800; R645-301-800, et seq.

Analysis:

Determination of bond amount

On September 10, 2001, the Permittee submitted a revised reclamation cost estimate for the Horizon Mine. The Division reviewed the reclamation cost estimates and determined that the bond amount should be \$342,000 in 2006 dollars.

TECHNICAL MEMO

The previous bond calculation was for \$711,00. The new bond amount is a \$369,000 reduction in the bond amount. The main reduction came from recalculation of the earthwork costs. The two main reasons for a reduction in the earthwork costs are as follows:

- The previous earthwork calculation called for a productivity rate of 36 cubic yards per hour. Those calculations were submitted by the former permittee. The Division accepted those calculations because they were conservative and based on work submitted by the Permittee. The revised calculations are based on a productivity rate of 169 cubic yards per hour, which is comparable to productivity rate at other site.
- The revised reclamation plan calls for only 10,240 cubic yards of material to be moved during reclamation. That amount includes backfill material as well as topsoil. A rule of thumb is that earthmoving activities cost range from \$0.50 to \$2.50 per cubic yard. The revised direct earthwork cost is for \$51,735, which is \$5.05 per cubic yard. Note, that the much of the material will have to be handled twice, once for moving from the cut areas to the fill areas by truck and then placed with either a dozer or a trackhoe.

The vegetation costs were calculated on a site-specific basis. The Division based the vegetation costs on seed prices for the specific seed mix and containerized stock. The price for vegetation is \$87,960, which includes a 25% reseeding rate.

The demolition costs were based on *Means* unit costs. The site has a small number of surface facilities so the demolition costs are low, \$109,170.

See attached sheets for detailed reclamation cost data.

Findings:

The Permittee has provided the Division with adequate information to determine the amount of the reclamation bond.

RECCOMENDATIONS:

The Permittee should be advised that they could deduce the reclamation bond from \$711,000 to \$342,000.